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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,773	07/08/2005	Saburo Miyabe	2003041	1491

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The Goodyear Tire & Rubber Company
Department 823
1144 East Market Street
Akron, OH 44318

EXAMINER

MAKI, STEVEN D

ART UNIT	PAPER NUMBER
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1791

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/541,773	Applicant(s) MIYABE ET AL.	
	Examiner Steven D. Maki	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6 and 8-16 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>012808</u> . | 6) <input type="checkbox"/> Other: _____ |

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1) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2) **Claims 1, 8-13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 317 (JP 11-334317) in view of Europe 898 (EP 788898) and Europe 270 (EP 565270).**

Japan 317 discloses a pneumatic tire with a tread comprising a continuous center rib, inner circumferential grooves, a continuous intermediate rib, outer circumferential grooves and shoulder blocks. See figures 1, 2, abstract, machine translation. The shoulder blocks are separated by lateral grooves 16. Inclined grooves 14 extend part way across the intermediate ribs such that the inner end thereof is spaced from inner circumferential groove. The pitch of the inclined grooves 14 is more than two times the pitch of the shoulder grooves 16 as seen in figure 2. The angle of inclination of the inclined grooves with respect to the circumferential direction increases away from the inner circumferential groove. See figure 2. Japan 317 does not recite tie rods in the shoulder lateral grooves.

As to claim 1, it would have been obvious to one of ordinary skill in the art to locate tie rods in the shoulder lateral grooves of Japan 317's directional tire tread since Europe 898, which also teaches a directional tread pattern in which shoulder regions are separated from a central region by relatively wide circumferential grooves, suggests

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locating basic rises 9 ("tie rods") in the shoulder lateral grooves to affect block stability and thereby obtain even abrasion. See figure and machine translation.

Furthermore, it would have been obvious to incline the inner end of the inclined grooves 14 at 0-25 degrees with respect to the circumferential direction and incline the outer end of the inclined grooves 14 at 60-80 degrees with respect to the circumferential direction since Europe 270, also directed to a directional tire tread pattern in which shoulder regions and separated from a central region by relatively wide circumferential grooves, suggests inclining inclined grooves, which are substantially the same in structure as those of Japan 317, such that the inner end is inclined at 5-30 degrees with respect to the circumferential direction and the outer end is inclined at 60-80 degrees with respect to the circumferential direction to obtain desired drainage efficiency and rigidity against input force during cornering.

As to claims 8 and 9, it would have been obvious to provide the width of Japan 317's inclined grooves 14 such that they are less than the width of the outer circumferential grooves 12 since Europe 270, also directed to a directional tire tread pattern in which shoulder regions and separated from a central region by relatively wide circumferential grooves, suggests forming the inclined grooves, which are substantially the same in structure as those of Japan 317, such that the width (e.g. 6.5 mm, 5-6 mm) of the inclined groove is less than the width (e.g. 10 mm) of the outer circumferential grooves 3 (example 1)..

As to claim 10, the claimed spacing L_a of 3-10 mm would have been obvious to one of ordinary skill in the art and could have been determined without undue

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experimentation in view of (1) Europe 317's teaching to use a central zone width R_c of for example 55 mm (paragraph 53 of machine translation) and (2) Europe 317's figure 1, which shows the inner end of the inclined groove being within the central zone having the width R_c and being spaced at a relatively small distance from the inner circumferential groove.

As to claims 11-13, the claimed central width K_i , intermediate width K_m and shoulder width K_o would have been obvious and could have been determined without undue experimentation in view of Japan 317's teaching to use a pair of shoulder block rows, a pair of intermediate ribs and a central rib whose width A may vary from 5% of the tread width to 30% of the tread width (paragraph 27 of machine translation).

As to claim 16, the claimed "diagonal length" L_1 of the inclined grooves being 20-40% of the ground contact width would have been obvious in view of the size of the inclined grooves 14 in the footprint shown in figure 2.

3) Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 317 (JP 11-334317) in view of Europe 898 (EP 788898) and Europe 270 (EP 565270) as applied above and further in view of Watanabe et al (US 5,109,903).

As to claim 2, it would have been obvious to one of ordinary skill in the art to chamfer the acute corners formed by the inclined grooves in Japan 317's intermediate ribs since Watanabe et al suggests chamfering acute corners in a tire tread - including those formed by inclined grooves in a rib, to improve rigidity and reduce non uniform wear.

4) Claims 3-4 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 317 (JP 11-334317) in view of Europe 898 (EP 788898) and Europe 270 (EP 565270) as applied above and further in view of Gerresheim et al (US 5,996,661) and Iwamura et al (US 6,109,317).

As to claims 3-4 and 14-15, it would have been obvious to one of ordinary skill in the art to incline the inside walls of the outer longitudinal grooves of Japan 317's directional tire tread at the claimed angle α and angle β since (1) Gerresheim et al and Iwamura et al suggest inclining the walls of outer circumferential grooves of a directional tire tread at a relatively small angle with respect to the circumferential direction so as to form a saw tooth configuration and (2) Iwamura et al teaches that such a saw tooth configuration avoid noise (column 3).

5) Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 317 (JP 11-334317) in view of Europe 898 (EP 788898) and Europe 270 (EP 565270) as applied above and further in view of Iwamura et al (US 6,109,317).

As to claim 6, it would have been obvious to one of ordinary skill in the art to reduce the width of Japan 317's shoulder lateral groove 16 axially outward as claimed since Iwamura et al, also directed to a directional tread pattern, suggests decreasing the width of the shoulder lateral grooves axially outwards to reduce noise (co.. 5 lines 54-58).

Allowable Subject Matter

6) **Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

Hasegawa (US 5,435,364) teaches grooves widths WG1 and WG2 for circumferential grooves of a directional tread pattern but fails to render obvious further modifying Japan 317 so as to satisfy claim 7.

Remarks

7) The 103 rejection based on Japan 907 (JP 07-290907) has been removed in view of the amendment to claim 1.

With respect to the addition of the tie bars, applicant's arguments with respect to claims 1-4, 6 and 8-16 have been considered but are moot in view of the new ground(s) of rejection.

8) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven D. Maki/
Primary Examiner, Art Unit 1791

Steven D. Maki
June 23, 2008